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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,479	07/16/2001	Subrata Mukherjee	50001.2058	5480
27045	7590	06/13/2005	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR C11 PLANO, TX 75024			SHEW, JOHN	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,479

Applicant(s)

MUKHERJEE ET AL.

Examiner

John L. Shew

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/17/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05282003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 10 paragraph [0034] refers to "Figure 2a" which is not submitted with the application.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 4, 5, 6, 8, 12, 13, 14, 15, 16, 17, 19, 23, 24, 25, 26, 27, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanninen (PCT WO 99/48311).

Claim 1, Hanninen teaches a method of providing wireless terminal service (FIGURE 1, page 5 lines 21-32, page 6 lines 1-10) referenced by the Indoor Coverage of GSM phone terminals, in an Internet Protocol (IP) network (FIGURE 1, page 6 lines 4-10) referenced by the BTS connection to the indoor IP LAN, comprising the steps of a wireless terminal requesting service utilizing a wireless protocol (FIGURE 1, FIGURE 5, FIGURE 13, page 18 lines 21-24) referenced by the Wireless Internet Office (WIO) subscriber A originating a call using a GSM protocol, a terminal agent of the IP network detecting the request for service in a service area supported by terminal agent (FIGURE 5, page 13 lines 21-29) referenced by the WIO Intranet Mobile Cluster (IMC) receiving the GSM signaling request of subscriber A wherein the IMC covers the area of the WIO BTS, the terminal agent providing a wireless interface to the wireless terminal (FIGURE 9, page 13 lines 31-32, page 14 lines 1-20) referenced by the WIO IMC Radio Resource Handling application in communication with the GSM protocol to the wireless Abis-interface, the terminal agent also providing an IP interface to the IP network (FIGURE 9, FIGURE 11) referenced by the WIO IMC H.323 Stacks interfacing to the UDP/TCP LAN through a WIO Interface Unit 120, and the terminal agent converting between wireless protocol and IP protocol whereby the wireless terminal is served by the IP network (FIGURE 9, page 14 line 12) referenced by the WIO IMC conversion from IP traffic to G.703 and TRAU frame generation to the Abis side.

Claim 2, Hanninen teaches further comprising the step of the IP network treating the wireless terminal as an IP terminal of the IP network (FIGURE 4, page 8 lines 30-32,

page 9 lines 1-15) referenced by the WIO Core Functions wherein the PC telephone and mobile phone are classified as H.323 Voice Terminals.

Claim 3, Hanninen teaches further comprising the step of the wireless terminal treating the terminal agent as an MSC of its Public Land Mobile Network, PLMN (FIGURE 9, page 6 lines 4-10, FIGURE 13, page 18 lines 21-32, page 19 lines 1-3) referenced by the WIO subscriber A setup to external subscriber B via IMS/MSC Step 139 thus the WIO IMS is treated as a MSC connection call.

Claim 4, Hanninen teaches further comprising the step of the terminal agent registering the wireless terminal in a Home Location Register, HLR of the PLMN of the wireless terminal (FIGURE 6, page 12 lines 14-30, page 13 lines 1-4) referenced by the WIO Intranet Location Register (ILR) which interfaces with the HLR and VLR to request a subscriber's IMSI/TMSI for location update to the WIO area.

Claim 5, Hanninen teaches further comprising the step of the terminal agent registering the wireless terminal in the IP network (FIGURE 5, page 15 lines 1-15) referenced by the WIO Gatekeeper taking care of terminal registration and status handling.

Claim 6, Hanninen teaches further comprising the step of the terminal agent communicating with the IP network using H.323 protocol (FIGURE 9) referenced by the WIO IMC using the H.323 Stack for communication to the UDP/TCP LAN.

Claim 8, Hanninen teaches further comprising the step of the wireless terminal treating the terminal agent as a Global System for Mobile communication GSM network (FIGURE 1) referenced by the GSM phone operating within the WIO coverage area.

Claim 12, Hanninen teaches a communication system providing wireless terminal service (FIGURE 1, page 5 lines 21-32, page 6 lines 1-10) referenced by the Indoor Coverage of wireless GSM phone terminals, in an IP network (FIGURE 1, page 6 lines 4-10) referenced by the BTS connection to the indoor IP LAN, comprising a gatekeeper for controlling access by IP terminals to the IP network (FIGURE 5, page 8 lines 9-16) referenced by the WIO Gatekeeper controlling access to the office IP H.323 LAN, and a terminal agent configured to facilitate IP network support of a wireless terminal not connected to the IP network (FIGURE 5, page 13 lines 21-32, page 14 lines 1-3) referenced by the WIO Intranet Mobile Cluster (IMC) providing a interface of the wireless phone terminals to the WIO Gatekeeper, the terminal agent appearing as an IP terminal to the gatekeeper (FIGURE 9, FIGURE 11, page 14 lines 22-28) referenced by the WIO IMC translation of the wireless Abis-interface to the H.323 protocol transmission through the WIO Interface Unit 120 to the Intranet where the WIO Gatekeeper handles only IP protocol and thus the wireless terminal appears as an IP terminal.

Claim 13, Hanninen teaches the terminal agent is configured to emulate a PLMN with respect to the wireless terminal (FIGURE 1, FIGURE 5, page 13 lines 21-29) referenced by the IMC interfacing with the BTS in communication to the wireless terminal using GSM protocol thereby emulating a PLMN.

Claim 14, Hanninen teaches the terminal agent further comprises a Home Location Register HLR for registering the wireless terminal (FIGURE 6, page 12 lines 14-30, page 13 lines 1-4) referenced by the WIO Intranet Location Register (ILR) which interfaces with the HLR and VLR to request a subscriber's IMSI/TMSI for location update to the WIO area.

Claim 15, Hanninen teaches the terminal agent further comprises a Visitor Location Register VLR for registering the wireless terminal with the Home Location Register HLR of the wireless terminal PLMN (FIGURE 6, page 12 lines 14-30, page 13 lines 1-4) referenced by the WIO Intranet Location Register (ILR) which interfaces with the HLR and VLR to request a subscriber's IMSI/TMSI for location update to the WIO area.

Claim 16, Hanninen teaches the terminal agent is configured to emulate an IP network terminal with respect to the gatekeepers (FIGURE 5, page 13 lines 21-29) referenced by the WIO IMC as a gateway in H.323 terminology thereby emulating an IP network.

Claim 17, Hanninen teaches the IP network comprises an H.323 network (FIGURE 5) referenced by the office IP LAN with a H.323 terminal attached.

Claim 19, Hanninen teaches the wireless terminal comprises a GSM terminal (FIGURE 1) referenced by the GSM phone in communication with the WIO indoor coverage area.

Claim 23, Hanninen teaches a terminal agent for interfacing a wireless terminal with an IP communication network (FIGURE 1) referenced by the Wireless Internet Office WIO interfacing a wireless GSM phone to an IP LAN, comprising a transceiver for providing radio service to a wireless terminal (FIGURE 1) referenced by the Base Transceiver Station BTS in communication with the GSM phone, a Radio Network Server RNS operably coupled to the transceiver for radio signal processing and transceiver control (FIGURE 5, page 13 lines 21-24, FIGURE 11) referenced by the Intranet Mobile Cluster IMC acting as a base station controller with a Radio Access Part 111, and a Network Access Controller NAC operably coupled to the RNS for conversion of signals between wireless protocol and IP protocol for facilitating exchange of the signals between the wireless terminal and the IP network (FIGURE 9, page 13 lines 31-32, page 14 lines 1-17, FIGURE 11) referenced by the IMC applications acting as a network access controller with the Radio Resource Handling Unit 117 for communication with the wireless Abis-interface and the Telecommunication Unit 119 for communication with the H.323 Stacks to the IP network.

Claim 24, Hanninen teaches the terminal agent is configured to emulate a PLMN with respect to the wireless terminal (FIGURE 1, FIGURE 5, page 13 lines 21-29) referenced by the IMC interfacing with the BTS in communication to the wireless terminal using GSM protocol thereby emulating a PLMN.

Claim 25, Hanninen teaches the terminal agent further comprises a Visitor Location Register VLR for registering the wireless terminal with the wireless terminal PLMN (FIGURE 6, page 12 lines 14-30, page 13 lines 1-4) referenced by the WIO Intranet Location Register (ILR) which interfaces with the HLR and VLR to request a subscriber's IMSI/TMSI for location update to the WIO area.

Claim 26, Hanninen teaches the terminal agent is configured to emulate an IP network terminal with respect to the IP network (FIGURE 5, page 13 lines 21-29) referenced by the WIO IMC as a gateway in H.323 terminology thereby emulating an IP network.

Claim 27, Hanninen teaches the IP network comprises an H.323 network (FIGURE 5) referenced by the office IP LAN with a H.323 terminal attached.

Claim 29, Hanninen teaches the wireless terminal comprises a GSM terminal (FIGURE 1) referenced by the GSM phone in communication with the WIO indoor coverage area.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 9, 11, 18, 20, 22, 28, 30, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanninen as applied to claims 1-6, 8, 12-17, 19, 23-27, 29 above, in view of Sayers et al. (Patent number 6687243).

Claim 7, Hanninen teaches a system for routing a call between cellular subsystems.

Hanninen does not teach the terminal agent communicating with the IP network using Session Initiation Protocol (SIP).

Sayers teaches a terminal agent (FIG. 2, column 10 lines 61-67, column 11 lines 4) referenced by the PLMN IWU 39-1, communicating with the IP network using Session Initiation Protocol (FIG. 2, column 10 lines 61-67, column 11 lines 4) referenced by the PLMN IWU use of SIP over H.323 protocol.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the SIP protocol as suggested by Sayers to the cellular subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 9, Hanninen teaches a system for routing a call between cellular subsystems. Hanninen does not teach the wireless terminal treating the terminal agent as a CDMA network.

Sayers teaches a wireless terminal treating the terminal agent as a Code Division Multiple Access CDMA network (FIG. 2, column 5 lines 63-67, column 6 lines 1-4) referenced by the private wireless network operating with wireless protocol CDMA thus the wireless terminal 4 operate using CDMA to the terminal agent comprising PLMN IWU Gatekeeper and P-BTS.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the CDMA protocol as suggested by Sayers to the cellular subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 11, Hanninen teaches a system for routing a call between cellular subsystems.

Hanninen does not teach the wireless terminal treating the terminal agent as a Personal Digital Cellular PDC network.

Sayers teaches a wireless terminal treating the terminal agent as a Personal Digital Cellular PDC network (FIG. 2, column 2 lines 26-36, column 5 lines 63-67) referenced by the wireless phone 4 operating using PDC which is a TDMA method to a terminal agent comprising PLMN IWU Gatekeeper and P-BTS.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the PDC protocol as suggested by Sayers to the cellular subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 18, Hanninen teaches a system for routing a call between cellular subsystems.

Hanninen does not teach the IP network comprises a Session Initiation Protocol SIP network.

Sayers teaches an IP network comprising a SIP network (FIG. 2, column 10 lines 61-67, column 11 lines 4) referenced by the PLMN IWU 39-1, communicating with the IP network using Session Initiation Protocol (FIG. 2, column 10 lines 61-67, column 11 lines 4) referenced by the PLMN IWU use of SIP over H.323 protocol.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the SIP protocol as suggested by Sayers to the cellular

subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 20, Hanninen teaches a system for routing a call between cellular subsystems. Hanninen does not teach the wireless terminal comprises a Code Division Multiple Access CDMA terminal.

Sayers teaches a wireless terminal comprises a Code Division Multiple Access CDMA terminal (FIG. 2, column 5 lines 63-67, column 6 lines 1-4) referenced by the private wireless network operating with wireless protocol CDMA thus the wireless terminal 4 operate using CDMA to the PLMN IWU Gatekeeper and P-BTS.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the CDMA protocol as suggested by Sayers to the cellular subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 22, Hanninen teaches a system for routing a call between cellular subsystems. Hanninen does not teach the wireless terminal comprises a Personal Digital Cellular PDC terminal.

Sayers teaches a wireless terminal comprises a PDC terminal (FIG. 2, column 2 lines 26-36, column 5 lines 63-67) referenced by the wireless phone 4 operating using PDC

which is a TDMA method to a terminal agent comprising PLMN IWU Gatekeeper and P-BTS.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the PDC protocol as suggested by Sayers to the cellular subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 28, Hanninen teaches a system for routing a call between cellular subsystems. Hanninen does not teach the IP network comprises a Session Initiation Protocol SIP network.

Sayers teaches an IP network comprising a SIP network (FIG. 2, column 10 lines 61-67, column 11 lines 4) referenced by the PLMN IWU 39-1, communicating with the IP network using Session Initiation Protocol (FIG. 2, column 10 lines 61-67, column 11 lines 4) referenced by the PLMN IWU use of SIP over H.323 protocol.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the SIP protocol as suggested by Sayers to the cellular subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 30, Hanninen teaches a system for routing a call between cellular subsystems. Hanninen does not teach the wireless terminal comprises a Code Division Multiple Access CDMA terminal.

Sayers teaches a wireless terminal comprises a Code Division Multiple Access CDMA terminal (FIG. 2, column 5 lines 63-67, column 6 lines 1-4) referenced by the private wireless network operating with wireless protocol CDMA thus the wireless terminal 4 operate using CDMA to the PLMN IWU Gatekeeper and P-BTS.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the CDMA protocol as suggested by Sayers to the cellular subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

Claim 32, Hanninen teaches a system for routing a call between cellular subsystems. Hanninen does not teach the wireless terminal comprises a Personal Digital Cellular PDC terminal.

Sayers teaches a wireless terminal comprises a PDC terminal (FIG. 2, column 2 lines 26-36, column 5 lines 63-67) referenced by the wireless phone 4 operating using PDC which is a TDMA method to a terminal agent comprising PLMN IWU Gatekeeper and P-BTS.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the PDC protocol as suggested by Sayers to the cellular

subsystem of Hanninen for the purpose of transmitting private IP network information through conversion to standard SS7 based MAP and A protocol signaling in order for the public MSC to process (Sayers Abstract lines 12-15).

4. Claims 10, 21, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanninen as applied to claims 1-6, 8, 12-17, 19, 23-27, 29 above, in view of Bjelland et al. (Patent number 6856612).

Claim 10, Hanninen teach a system for routing calls between cellular subsystems. Hanninen does not teach a wireless terminal treating the terminal agent as a DAMPS network.

Bjelland teaches a wireless terminal (FIG. 5) referenced by the phone 340, treating the terminal agent (FIG. 5) referenced by the ISP POP, as a Digital Advanced Mobile Phone System DAMPS network (column 4 lines 36-50) referenced by the use of DAMPS in place of GSM.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the DAMPS protocol as suggested by Bjelland to the cellular subsystem of Hanninen for the purpose of communicating information evaluation

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regarding routing of calls performed at a call control point in wireless network (Bjelland Abstract lines 1-3).

Claim 21, Hanninen teach a system for routing calls between cellular subsystems.

Hanninen does not teach the wireless terminal comprises a Digital Advanced Mobile Phone System DAMPS terminal.

Bjelland teaches a wireless terminal (FIG. 5) referenced by the phone 340, treating the terminal agent (FIG. 5) referenced by the ISP POP, as a Digital Advanced Mobile Phone System DAMPS network (column 4 lines 36-50) referenced by the use of DAMPS in place of GSM.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the DAMPS protocol as suggested by Bjelland to the cellular subsystem of Hanninen for the purpose of communicating information evaluation regarding routing of calls performed at a call control point in wireless network (Bjelland Abstract lines 1-3).

Claim 31, Hanninen teach a system for routing calls between cellular subsystems.

Hanninen does not teach the wireless terminal comprises a Digital Advanced Mobile Phone System DAMPS terminal.

Bjelland teaches a wireless terminal (FIG. 5) referenced by the phone 340, treating the terminal agent (FIG. 5) referenced by the ISP POP, as a Digital Advanced Mobile

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Phone System DAMPS network (column 4 lines 36-50) referenced by the use of DAMPS in place of GSM.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the DAMPS protocol as suggested by Bjelland to the cellular subsystem of Hanninen for the purpose of communicating information evaluation regarding routing of calls performed at a call control point in wireless network (Bjelland Abstract lines 1-3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L. Shew whose telephone number is 571-272-3137. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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